

New York State Department of Transportation

Yellow Flag NB2358W012

By: Alex Abreu

Flag Date: May 10, 2023

Superseding Information:

No Flags Superseded

Structure Information

BIN: 1065318

Feature Carried: 278I278IX2M23027

Feature Crossed: 6TH AVENUE

Orientation: 8 - NORTHWEST

Region: 11 - NEW YORK CITY

County: KINGS

Political Unit: City of NEW YORK

Approximate Year Built: 1962

Posted Load Matches Inventory : Yes

Bridge Load Posting (Tons) : Not Posted for Load

Primary Owner: New York State Department of Transportation

Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party

Typical or Main Span Type: 3 - Steel, 02 - Stringer/Multi-Beam or Girder

This Bridge is not a Ramp

Number of Spans: 322

Verbal Notification Information

Person Notified: Heinz Joachim, P.E.

Date: May 12, 2023 12:38:00 PM

Of: NYSDOT Region 11

Signature Information

Signature: Alex Abreu, P.E. 099761-1

Date: May 21, 2023

Reviewed By: Robert Kemp

Date: May 22, 2023

Attachments: 6

Flagged Elements

Parent Element	Element	Total Quantity	Unit
Span Number : 289			
	113 - Steel Stringer	1639	ft

Flagged Condition Description

This Yellow Flag No. NB2358W012 is NEW.

Location: Span 289, Stringer S1 at end side of Floorbeam FB4 above the center lane of Hamilton Avenue WB roadway near 15th Street.

Description:

The end of Stringer S1 in Span 289 at the end side of Floorbeam FB4 exhibits severe section loss for the full height of the web along the connection angle with 0.10"-0.15" remaining thickness measured (RTM), resulting in approximately 63% to 75% section loss with average 70% section loss for full stringer web height. The stringer web exhibit one corrosion hole adjacent to the connection angle for 8"H x 1-1/2"W in the upper web with one pinole in the lower web. The overall shear web area section loss is approximately 57%. Four rivets at the left face of the stringer exhibit section loss for 50% in two rivets at the upper web and 50%-75% in two rivets in the lower web. (Photos #5 and #6) Both connection angles exhibit no significant defects. (refer to Flag Condition Sketch Photo #2 for more details)

This is a newly flagged condition.

Notes:

1. The above flagged stringer is a curb stringer that is a built up steel channel member with the bottom flange located on the right side of the stringer and does not receive direct live load, but supports the barrier/railing above on I278.
2. The other end of the above flagged stringer is located at the begin side of Floorbeam FB5 and exhibits up to 20% section loss in the lower web adjacent to the connection angle.
3. Adjacent Stringer S2 exhibits up to 1/8" section loss for the full height of the web along the connection angle and in the lower web above the bottom flange for 24"L x 2"H.
4. A double lane closure in the left and center lanes on WB roadway and 125ft manlift are required to access this location.
5. The previous 2021 Biennial Inspection report stated the following defects at the above flagged stringer:
Stringer S1 exhibits up to 3/16" section loss at the end side of Floorbeam FB4 and a 1-1/2" diameter corrosion hole at the upper section.

Flag Photographs

Photo Number: 1

Photo Filename: 23_Flag Location Plan.jpg

Gowanus Expressway
2023 Biennial Inspection - Field Sketch

BIN: 1065318Team: AA/TSDate: 05/10/2023Span: 289

Location: Stringer S1 at Floorbeam FB4

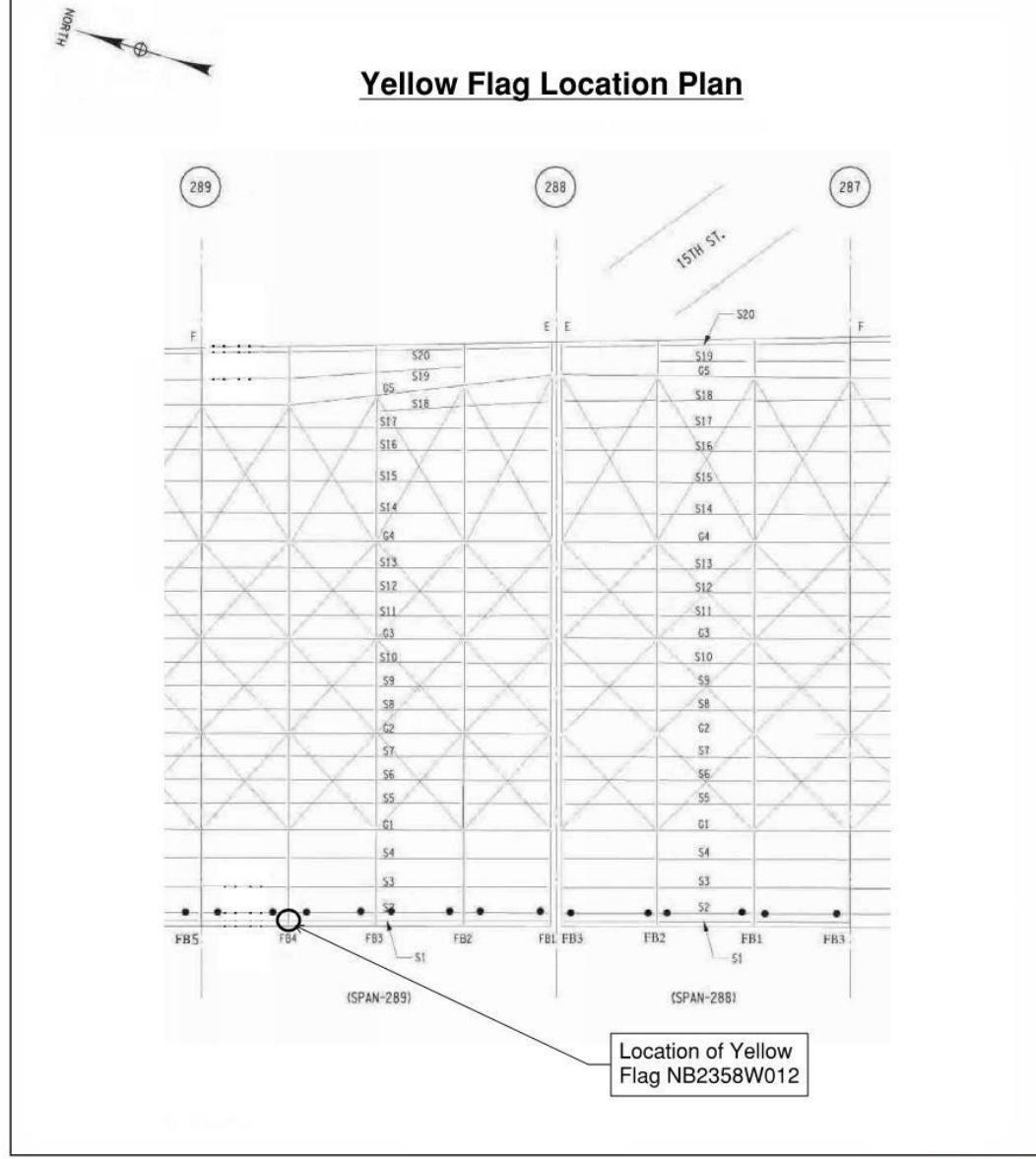
**WSP****Attachment Description: Flag Location Plan**

Photo Number: 2

Photo Filename: 23_Span 289_Floorbeam FB4_Stringer

Gowanus Expressway
2023 Biennial Inspection - Field Sketch

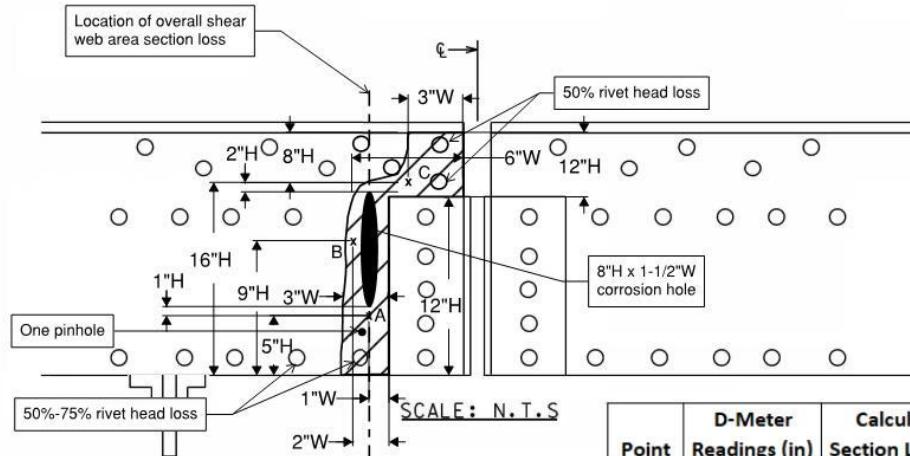
BIN: 1065318

Team: AA/TS

Date: 05/10/2023

Span: 289

Location: Stringer S1 at Floorbeam FB4

Left Face of Stringer S1Overall Shear Web Area Section Loss:

Shear web area:

$$(1"+5") \times 0.12"[\text{Point A}]+8" \times 0"[\text{Corrosion hole}]+2" \times 0.10"[\text{Point C}]+8" \times 0.40" = 4.12 \text{ in}^2$$

Overall shear web area section loss:

$$((24" \times 0.40") - 4.12 \text{ in}^2) / (24" \times 0.40") \times 100 = 57\%$$

Notes:

-As-measured web thickness is approximately 0.40".

-Stringer S1 is a steel channel member.

-Section Loss Calculations:

$$\text{Point A: } (0.40" - 0.12") / 0.40" = 70\%$$

$$\text{Point B: } (0.40" - 0.15") / 0.40" = 63\%$$

$$\text{Point C: } (0.40" - 0.10") / 0.40" = 75\%$$

$$\text{Average Section loss: } (70\% + 63\% + 75\%) / 3 = 70\%$$

Attachment Description: Flag Condition Sketch

Photo Number: 3

Photo Filename: 23_113_7007.JPG



Attachment Description: General view of the flagged condition at Stringer S1 at the end side of Floorbeam FB4 in Span 289. Looking Begin and Right.

Photo Number: 4

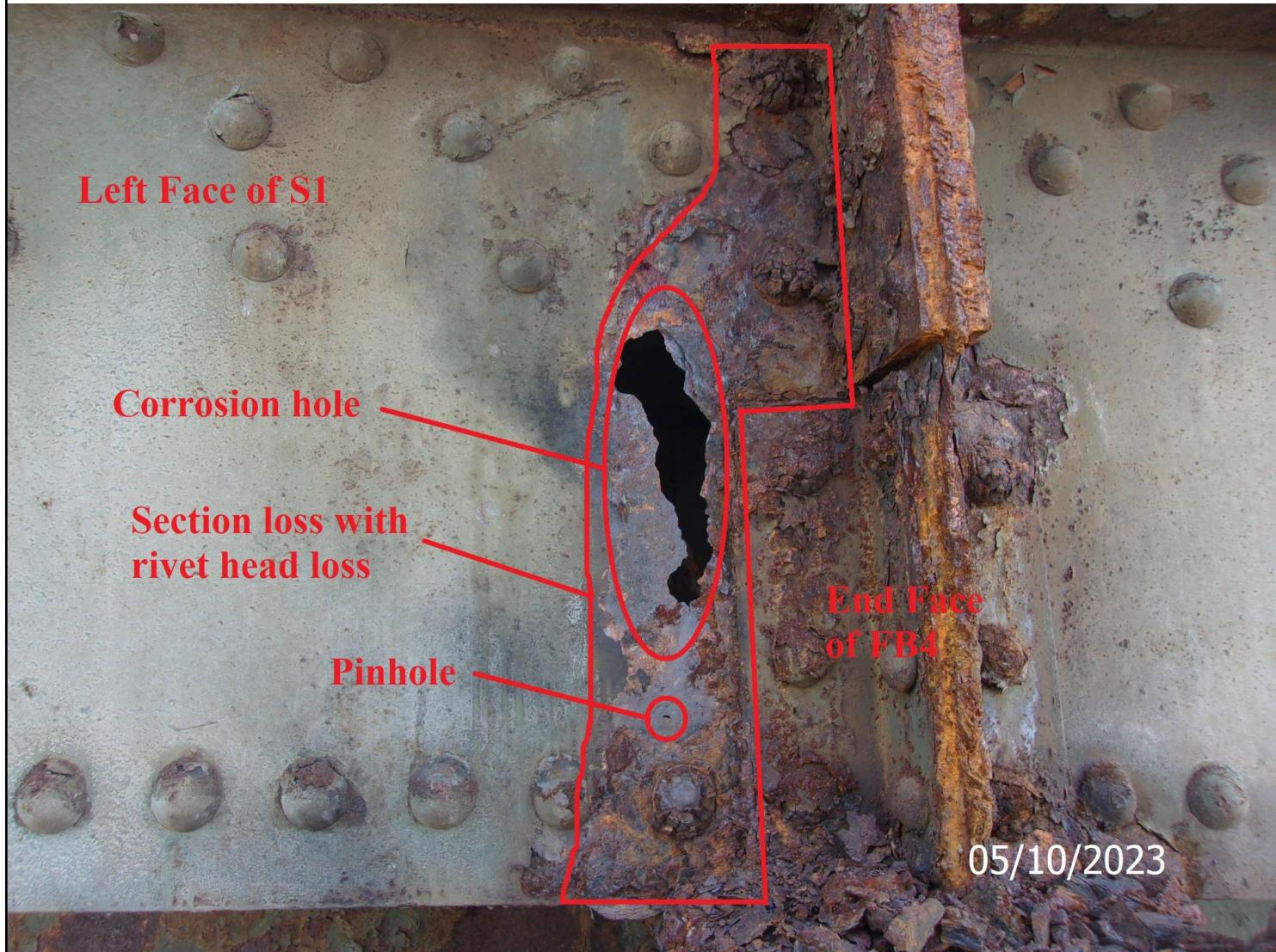
Photo Filename: 23_113_7004.JPG



Attachment Description: Close up general view of the flagged condition at Stringer S1 at the end side of Floorbeam FB4 in Span 289. Looking Begin and Right.

Photo Number: 5

Photo Filename: 23_113_7003.JPG



Attachment Description: The left face of Stringer S1 at the end side of Floorbeam FB4 in Span 289. The stringer exhibits severe section loss with average 70% section loss for the full web height along the connection angle with one corrosion hole in the upper web and one pinhole in the lower web. Looking Right.

Photo Number: 6

Photo Filename: 23_113_7005.JPG



Attachment Description: The right face of Stringer S1 at the end side of Floorbeam FB4 in Span 289. The stringer exhibits severe section loss with average 70% section loss for the full web height along the connection angle with one corrosion hole in the upper web and one pinhole in the lower web. Looking Begin and Left.